

### Islands Where Endemic Subspecies of Birds Can Be Found Year Round

<b>Bird</b>	<b>AI</b>	<b>SCI</b>	<b>SRI</b>	<b>SMI</b>	<b>SBI</b>
<b>Island Scrub Jay</b>		<b>X</b>			
<b>Orange-crowned Warbler</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Allen's Hummingbird</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>Horned Lark</b>		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>Island Loggerhead Shrike</b>		<b>X</b>	<b>X</b>		
<b>Song Sparrow</b>			<b>X</b>	<b>X</b>	
<b>Bewick's Wren</b>	<b>X</b>	<b>X</b>	<b>X</b>		
<b>San Clemente Spotted Towhee</b>			<b>X</b>		
<b>Rufous-crowned Sparrow</b>	<b>X</b>	<b>X</b>			
<b>House Finch</b>					<b>X</b>

### Islands where Endemic Species that is only a Summer Resident Can Be Found

<b>Bird</b>	<b>AI</b>	<b>SCI</b>	<b>SRI</b>	<b>SMI</b>	<b>SBI</b>
<b>Pacific-sloped flycatcher</b>	<b>X</b>	<b>X</b>	<b>X</b>		

## Where Endemic Subspecies of the Bird May be Seen

Bird	Islands Year Round	Misc. Information about the species
Island Scrub Jay	SCI	Subspecies formerly SRI
Orange-crowned Warbler	All	Common spring and fall transient on SBI—uncommon summer. res. SBI
Allen's Hummingbird	All except SBI	Occasional transient SBI
Horned Lark	All except AI	Occasional winter visitor AI
Island Loggerhead Shrike	SCI and SRI	Visitor (uncommon) at others
Song Sparrow	SMI, SRI	Non-endemic species year round on SCI; song sparrows are casual spring and fall transients on AI
Bewick's Wren	AI, SCI, SRI	Spring transient SBI and SMI
San Clemente Spotted Towhee	SRI	Non-endemic species SCI
Rufous crowned Sparrow	SCI, AI	
House Finch	SBI	Non endemic on other park islands

Many of the mainland subspecies can be seen on the islands certain times of the year.

### Summer Residents

Bird	Islands Summer Resident	Other Information
Pacific-slope Flycatcher	AI, SCI, SRI	Spring and fall transient on SBI and SMI

### Unique Characteristics of Endemic Bird Subspecies

Bird	Color and Behavior difference known	Morphological Differences
Island Scrub Jay	Darker and bluer and larger—different call	Longer wings, tail, bill, tarsi, and toes
Pacific-slope Flycatcher	Voice differences Grayer	Longer wings, tail, bill, toes, and tarsi
Orange-crowned Warbler	Song difference Darker	Longer bill, tarsi, toes; shorter wings
Allen's Hummingbird	Tail pattern different	Longer bill and wings
Horned Lark	Darker	Longer broader bill, longer tarsi and toes Shorter wings and tail
Island Loggerhead Shrike	Different call, Darker	Longer bill, shorter wings and tail
Song Sparrow	Grayer	
Bewick's Wren	Darker	Shorter tail
San Clemente Spotted Towhee	Grayer	Longer tarsi
Rufous-crowned Sparrow	Darker	Heavier bill, longer tarsi, and heavier toes
House Finch	Different vocalization	Heavier bill

## Island Endemic Birds

There are 11 endemic birds on the five Channel Islands that make up the national park. One of them, the Island Scrub Jay, is a distinct species while the others are subspecies. The island endemics tend to be either grayer or darker in color than the similar species on the mainland. They also tend to have longer and/or heavier bills and longer and heavier tarsi and feet. Johnson found in his study that there was no trend in wing length or tail length between island subspecies and their counterparts on the mainland. Some endemic species had longer wing and/or tail length while others were shorter (Johnson, 1972). Most of the more subtle morphological differences cannot be recognized in the field. However, with some of the subspecies on the islands, unique color and songs may be recognizable. Those traits that may be recognized are listed on the chart on the back of the pictures.

In his article Johnson gave some possible reasons why these birds changed on the islands. Due to lack of competitors, many island birds including these endemic subspecies occupy more habitats than similar birds do on the mainland. Bill size may be larger because it would make it easier to eat more different kinds of food. Tarsus length on the island may differ because of greater variety of perches used. Darker color of island birds may be due to the darkness of the vegetation and the abundance of fog as compared to the mainland. He postulated that the grayer color of others may be due to the fact that it is believed that some birds developed first on the southern islands which have a more open environment and then expanded their range to the northern islands. (Johnson 1972).

In the 20<sup>th</sup> century a couple of these endemic birds have expanded their range to limited areas of the mainland. There is, in addition, one endemic sub-species that is a summer resident and breeder but does migrate in the winter.

Each species will be discussed briefly below. All comments are about the subspecies and how they live on the islands, but a large number of characteristics are also true about mainland sub-species. Many of the mainland subspecies can be seen on the islands particularly during spring and fall. If a visitor sees a possible endemic sub-species nesting particularly between March and June and they are singing, carrying food etc. he/she can be fairly assured that he/she has seen the endemic subspecies. Otherwise details about the subspecies would have to be known by the visitor and he/she would have to have an excellent look at the bird to determine if it was the subspecies.

### **Island Scrub Jay *Aphelocoma insularis***

The Island Scrub Jay is the only bird considered at the present time to be a separate species and is found only on Santa Cruz Island. At one time it was also on Santa Rosa Island. It is larger, darker blue in color, and has all the other characteristics of change that occur on island birds. (Johnson 1972). It also has a distinctive call (Caldwell and Sillett 2008). This species is the only Scrub Jay on the island and occupies more habitats than the Scrub Jays do on the mainland.

With their larger bill Island Scrub Jays have become one of the top predators on the island. They will eat almost anything including insects, spiders, snakes, lizards, mice, other birds' eggs and babies, and even have been observed trying to catch adult Orange-crowned Warblers. The Island Scrub Jays particularly like acorns, and in the fall collect them and stash them for future winter food. These birds are monogamous, often having the same mates all their lives. They are also territorial (Caldwell and Sillett 2008).

On the park property of Santa Cruz Island Scrub Jays have been seen off trail in the trees in upper Scorpion Canyon and in the oak trees on the steep section of the Scorpion Loop Trail. Several people have gone to the oak trees in upper scorpion valley, quietly waited, and the Scrub Jays have shown themselves.

### **Pacific-slope Flycatcher *Empidonax difficilis insulicola***

The Pacific slope Flycatcher found on the Channel Islands presently is considered a subspecies, but some ornithologists think that it should be a separate species. More study is needed before this designation can be made. (National Audubon Society 2001). This subspecies is grayer, has a longer bill, longer tarsi, longer toes, longer wings and a longer tail length than the mainland subspecies (Johnson 1972). These birds are a little duller in color than the birds of the West Coast subspecies (Dunn & Alderfer 2008). In addition, in one source, the Island Pacific-slope Flycatchers were reported to be larger than the mainland birds. There are also voice and genetic differences between those found on the islands and on the mainland.

The subspecies' birds found on the islands are considered summer residents on Santa Rosa, Santa Cruz, and Anacapa. Nests have been on the north facing slopes of West Anacapa. Middle and East Anacapa do not have the trees for their preferred nesting habitat. (Collins personal communication 2010) Pacific-slope Flycatchers are spring and fall transients on the other two park islands (Jones, Collins, and Stefani 1999). While there are occasionally spring and fall transients of other *Empidonax* Flycatchers, the most common of these flycatchers is the Pacific-slope Flycatcher. In summer it is just about certain. Transient sightings of other species of *Empidonax* Flycatchers are more common on Santa Barbara Island than on the northern park islands (Jones, Collins and Stefani 1999).

Like most flycatchers, the Pacific-slope Flycatchers are insect eaters and can be seen flying out to get insects and then returning to their perches. They also get some of their insect food by gleaning trees and shrubs. These birds are cavity nesters. These flycatchers migrate for the winter, probably to Mexico. Since the different *Empidonax* Flycatchers look so similar in the field, exact information about this subspecies's winter location is not available.

### **Orange-crowned warbler *Vermivora celata sordida***

The Orange-crowned Warbler endemic subspecies is a resident on all the park islands. . However, several subspecies of Orange-crowned Warblers from areas throughout western North America migrate past/over the Channel Islands on their way south into southern Mexico and Central America. During these periods, Orange-crowned Warblers are seen more commonly. However, after the migrants have passed over the islands we are left with the resident orange-

crowned warbler (*Vermivora celata sordida*), which is a near endemic subspecies that is found on the Channel Islands and along the immediate mainland coastline. So during the summer months you will typically only observe the near endemic (*V. c. sordida*) while during the spring and fall you can see a variety of Orange-crowned Warbler subspecies. As far as we know, the near endemic subspecies does not migrate off the islands but may shift or expand into habitats that it is typically found in during the breeding season. (Jones, Collins and Stefani 1999, Johnson 1972)

The color of the endemic subspecies birds is darker than the corresponding mainland birds, and they also have longer bills, longer tarsi, and longer toes. Wing length is shorter on the island birds than the mainland birds (Johnson 1972). Their songs are also different from the different mainland subspecies and the songs may be noticed by an experienced birder (Langin, Yoon, Sillett 2009). The island bird is more heavily streaked with olive below (Sibley 2003).

This subspecies of Orange-crowned Warbler can also be found on a few places on the Palos Verdes Peninsula and on Point Loma in addition to the islands. It is thought that these birds developed their unique characteristics on the islands and then expanded their range to the mainland. On the mainland this species exists in isolation from the other subspecies of Orange-crowned warblers (Johnson 1972). Those that breed on the islands now, however, remain on the islands all year. Of those that have been banded on the islands, none have been recaptured on the mainland. (Collins personal communication 2010)

Island Orange-crowned Warblers tend to nest off the ground in oak trees, Lemonade Berry shrubs, Coreopsis plants and other similar places, while the mainland birds are generally ground nesters. (Langin, Yoon, Sillett 2009).

### **Allen's Hummingbird – *Selasphorus sasin sedentarius***

This subspecies of hummingbird has a longer bill and longer wings than the mainland subspecies. (Johnson 1972). The subspecies formerly was formerly only on Anacapa, Santa Cruz, and Santa Rosa Islands according to Johnson. This bird, like the other endemic subspecies, became isolated on the islands and developed its unique characteristics over time.

According to an Audubon article this subspecies has expanded its range in the 20<sup>th</sup> century to six Channel Islands including San Miguel Island where it is a year round resident and has also expanded its range to Los Angeles area. Like this subspecies on the island, the mainland ones do not migrate. The more common mainland subspecies of Allen's hummingbird migrates to Mexico for the winter (Audubon Watch List 2009).

While Allen's Hummingbirds are not year round residents on Santa Barbara Island, they are occasionally seen in the fall and spring (Jones, Collins and Stefani 1999). No information was obtained as to whether the ones seen are the endemic subspecies or the mainland one.

Allen's Hummingbirds are much more common on the islands than Anna's Hummingbirds, although the latter can be seen. On the mainland Anna's are more common. Allen's Hummingbirds have rufous-colored sides and rounded tails. Anna's Hummingbirds are

larger and greener and have squarish tails, although the males' tails may be slightly forked (Schoenherr 1999). Anna's Hummingbirds are common summer residents on San Miguel, uncommon residents on Santa Cruz and quite uncommon on the others. Allen's Hummingbirds are common on all the park islands except Santa Barbara (Jones, Collins and Stefani 1999). Therefore, except for San Miguel, it is much more likely that an island visitor will see an Allen's Hummingbird than an Anna's Hummingbird.

### **Horned Lark *Eremophila alpestris insularis***

The Horned Lark is a ground subspecies found in grasslands on all of the islands. It is a year-round resident of all park islands except Anacapa Island, where it is an occasional winter visitor. (Jones, Collins and Stefani 1999). It was a former resident on Anacapa Island. The island subspecies shows all of the characteristics typical of change on the island birds including darker color, a longer broader bill, longer tarsi, and longer toes. They also have shorter wings and tail (Johnson 1972). This subspecies has some streaking below (Dunn and Alderfer 2008). This bird can be observed walking or running in grassland. Food consists of seeds and insects (Sibley 2001).

### **Island Loggerhead Shrike – *Lanius ludovicianus anthonyi***

Island Loggerhead Shrikes of subspecies *Lanius ludovicianus anthonyi* are year-round residents of both Santa Rosa and Santa Cruz Islands. They are also on Santa Catalina. Historically they lived on Anacapa Island and San Miguel Island. They only differ slightly from the San Clemente Loggerhead Shrike, a federally listed endangered bird. Differences between the San Clemente Loggerhead Shrike and the park island subspecies can be found in the DNA. Also the call is distinctive (Collins 2008).

Like many island endemics, they are darker in color than the mainland bird. Their bills are longer while the length of their wings is shorter than the mainland bird (Johnson 1972).

Loggerhead Shrikes prefer open habitat with scattered trees and shrubs or fences where they can perch. One place they have been observed on Santa Cruz Island is in the open flat areas beyond the second campground.

These birds generally have one brood of babies a year. Their nests are concealed in tall shrubs such as Lemonade Berry, Toyon, Catalina Cherry, etc. These birds feed on a variety of items depending on what is available, and the males frequently impale their food on fences etc. Red-tailed Hawks and Common Ravens are a threat to them (Collins 2008).

### **Channel Island Song Sparrow *Melospiza melodia graminea***

The birds of the endemic sub-species *Melospiza melodia graminea* are year-round residents on San Miguel Island and Santa Rosa Island. There also are Song Sparrows on Santa Cruz Island, but they are considered to be an intermediate between the mainland subspecies and the endemic island subspecies. The endemic song sparrow is only a spring and fall transient on Anacapa Island. Formerly, there were several endemic subspecies of Song Sparrows on the

islands, but in 2001 they were combined for classification purposes into one subspecies (Collins 2008). The recently-defined endemic subspecies tends to be grayer than the mainland birds. Since the subspecies Johnson wrote about that have been combined had differences, there is no definite information that can be given about other differences in the present classification (Johnson 1972).

The Island Song Sparrows prefer dense shrubby vegetation and either standing water or a foggy area. They can also be seen in thickets of coreopsis as well as in many other shrubs. The strong winds and predation by island foxes are problems to the Song Sparrows on San Miguel Island. They tend to build heavier nests and locate them on the leeward side of a shrub because of the winds (Collins 2008).

### **Bewick's Wren – *Thryomanes bewickii nesophilus***

The Bewick's Wren subspecies is a year-round resident and occurs on Anacapa, Santa Cruz, and Santa Rosa and is only weakly differentiated from the mainland sub-species by being a darker color. This sub-species also has a shorter tail than the mainland subspecies (Johnson, 1972).

These Bewick Wrens rarely feed on seeds and generally glean their invertebrate food from the lower branches of small trees and shrubs and from the stems of large herbaceous plants. They generally nest in natural cavities or rock crevices (Zeiner et al. 1988). Bewick's wrens (both endemic and non-endemic) can be identified on the islands by their white eyebrow and distinctive tail. These are very active birds. (Sibley 2003).

### **San Clemente Spotted Towhee *Pipilo maculatus clementae***

The endemic San Clemente Spotted Towhee is a year-round resident only on Santa Rosa Island in the park. It also is a resident on Santa Catalina Island. Historically it was on San Clemente Island. The mainland subspecies is on Santa Cruz Island as a year-round resident and occasionally a winter visitor on other park islands. Therefore the spotted towhee on Santa Cruz Island is not endemic (Collins 2008). The differences between the island subspecies and the mainland subspecies are that the island endemic birds are grayer and have longer tarsi, The differences between the mainland and island subspecies are small. (Johnson 1972).

San Clemente Spotted Towhees and the mainland Spotted Towhee favor areas that have considerable leaf litter on the ground and also have overhead branches. They obtain their food either in the litter or from the branches and leaves of bushes and trees. Their food consists of insects in all stages of their lives and other arthropods as well as vegetable matter. They are ground nesters in areas with a lot of cover for protection (Collins 2008).

### **Rufous-crowned Sparrow *Aimophila ruficeps obscura***

This subspecies of Rufous-crowned Sparrow is found year-round on Santa Cruz Island and West and Middle Anacapa. While this bird does not nest on East Anacapa, it can

occasionally be seen there (Collins 2008). This endemic subspecies is darker in color, has a heavier bill, longer tarsi, and heavier toes (Johnson 1972).

Habitats favored by the Rufous-crowned Sparrow on the islands are coastal-bluff, coastal sage and open coyote-brush scrub. These birds are both ground nesters and ground feeders. Habitats were obviously affected by ranching and made them more vulnerable to native and non-native predators. Native predators include island scrub Jays, foxes, and spotted skunks. However, recent studies have indicated population increases and will probably continue as the habitat is restored. (Collins 2008).

### **House Finch—*Carpodacus mexicanus clementis***

The endemic House Finch subspecies is found only on Santa Barbara Island and the other southern Channel Islands. The northern islands all have the same subspecies as the coastal mainland does, so they are not endemic. The distinguishing characteristic of this sub species is a heavier bill (Johnson 1972) and some evidence of vocalization differences (Collins personal communication). The degree of red color in House Finches is somewhat dependent on diet (Clipper Woods Bird Observatory 2009).

House Finches on the southern islands can frequently be found nesting on the cactus. This bird is primarily a ground feeder and particularly favors seeds from composites (Granholtm 2009).



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